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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/548,734	04/13/2000	Hugo J. Strubbe	US0000103	6918

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EXAMINER

ENG, GEORGE

ART UNIT

PAPER NUMBER

2643

DATE MAILED: 12/18/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/548,734	STRUBBE ET AL.	
	<b>Examiner</b> George Eng	<b>Art Unit</b> 2643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 13 April 2002.

2a) This action is FINAL.                  2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

4) Claim(s) 1-23 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-23 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a)  The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ .
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>4.5</u> .	6) <input type="checkbox"/> Other: _____ .

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The information disclosure statements filed 5/31/2001 (paper no. 4) and 12/17/2001 (paper no. 5) have been considered.

### ***Drawings***

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the camera is zoom out by an additional amount if the detected period of continued silence exceeds a second amount of time greater than the first amount of time must be shown or the feature(s) canceled from the claim(s).

No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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4. Claims 1-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1, 12 and 23, it is unclear what is meant by "to determine a manner in which at least one of the audio locator output and the video locator output will be utilized to adjust a setting of the camera based on the given measurement interval" because the claimed language fails to clearly specify whether the audio locator, or the video locator or both audio locator and the video locator will be utilized.

Claims 2-11 and 13-22 are also rejected because of depending on claims 1 and 12, respectively, containing the same deficiency.

Accordingly, the following art rejection is applied from a broad interpretation of the claims in view of the 112 2<sup>nd</sup> paragraph problems listed above.

### ***Claim Objections***

5. Claim 8 and 19 are objected to because of the following informalities: claims 8 and 19, the second occurrence of "a same speaker" should be --the same speaker--. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-3, 7-10, 12-14, 18-21 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Hildin (US PAT. 5,844,599).

Regarding claim 1, Hildin discloses a method for tracking an object of interest, i.e., an active speaker, in a video processing system comprising the steps of generating for a given measurement interval an audio locator output and a video locator output, each indicative of a location of the object of interest (col. 4 lines 26-50), applying a set of rules to determine at a manner in which the audio locator output will be utilized to adjust a setting of the camera based in the given measurement interval (col. 4 line 51 through col. 5 line 19), and adjusting the camera setting in accordance with the determined manner of utilization (col. 5 lines 55-65).

Regarding claim 2, Hildin discloses the object of interest comprising an active speaker, i.e., a moving person (col. 2 lines 29-30).

Regarding claim 3, Hildin discloses the camera is a pan-tilt-zoom camera having adjustable pan, tilt, and zoom settings (col. 2 lines 30-38 and col. 5 lines 60-65).

Regarding claim 7, Hildin teaches to determine based on the audio locator output if the object of interest corresponds to a new speaker in a multiple-participant system and directing the camera to zoom out by a predetermined amount and to turn in a direction of the new speaker if a new speaker is detected (col. 5 lines 4-19 and col. 6 lines 2-9).

Regarding claim 8, Hildin discloses to determine whether the object of interest corresponds to a same speaker in a multiple-participant system based on the audio locator output (col. 4 lines 43-64), and utilizing the video locator output to adjust camera setting so as place the

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same speaker at a designated position within one or more video frames generated by the camera (col. 4 lines 26-42).

Regarding claim 9, Hildin teaches to locate a head of the identified same speaker occupied a designated portion of a given one or more video frame generated by the camera by for precision adjustments of the field of view (col. 6 lines 10-14) such that it includes adjusting a zoom setting of the camera.

Regarding claim 10, Hildin teaches to zoom out the camera by a predetermined amount after a detect period of continued silence exceeds a first amount of time (col. 6 lines 6-9).

Regarding claim 12, Hildin discloses an apparatus for tracking an object of interest, i.e., an active speaker, in a video processing system as shown in figure 5 comprising a camera (102) and a processor (106) coupled to the camera and operative to process an audio locator output and a video locator output, each indicative of a location of the object of interest for a given measurement interval (col. 4 lines 26-50), to apply a set of rules to determine at a manner in which the audio locator output will be utilized to adjust a setting of the camera based in the given measurement interval (col. 4 line 51 through col. 5 line 19) so that the camera setting is adjusted in accordance with the determined manner of utilization (col. 5 lines 55-65).

Regarding claim 13, the limitations of the claim are rejected as the same reasons set forth in claim 2.

Regarding claim 14, the limitations of the claim are rejected as the same reasons set forth in claim 3.

Regarding claims 18-21, the limitations of the claims are rejected as the same reasons set forth in claims 7-10, respectively.

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Regarding claim 23, the limitations of the claim are rejected as the same reasons set forth in claim 1.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 4-5 and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hildin (US PAT. 5,844,599) in view of Pingali (US PAT. 6,005,610).

Regarding claims 4-5, Hildin differs from the claimed invention in not specifically teaching to determine if the audio locator and video locator output are sufficiently close for the give measurement interval, to utilize the audio locator output to adjust the camera setting if the audio and video locator outputs are not within a specified range of one another for the given

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measurement interval, and to utilize the video locator output to adjust the camera setting only if the audio and video locator output are within a specified range of one another for the given measurement interval. However, Pingali teaches an integrated localizer to determine whether a visual object localizer and audio source localizer are sufficiently close for a given measurement interval (col.8 line 65 through col. 9 line 5) and to utilize either the visual object localizer output or the audio source localizer output to adjust a camera depending upon whether the visual object localizer output and the audio source localizer outputs are within a specified range or not, in order to improve estimate of the location of an identified object (col. 9 lines 6-25 and lines 31-53). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Hildin in determining if the audio locator and video locator output are sufficiently close for the give measurement interval, utilizing the audio locator output to adjust the camera setting if the audio and video locator outputs are not within a specified range of one another for the given measurement interval, and utilizing the video locator output to adjust the camera setting only if the audio and video locator output are within a specified range of one another for the given measurement interval, as per teaching of Pingali, because it improves estimate of the location of an identified object.

Regarding claims 15-16, the limitations of the claims are rejected as the same reasons set forth in claims 4-5.

10. Claims 11 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hildin (US PAT. 5,844,599) in view of Chim (US PAT. 6,275,258).

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Regarding claim 11, Hildin discloses to zoom out by the predetermined amount after the detected period of continued silence exceeds a first amount of time (col. 6 lines 6-9). Hildin differs from the claimed invention in not specifically teaching to zoom out by an additional amount if the detected period of continued silence exceeds a second amount of time greater than the first amount of time. However, Chim teaches a camera tracking system capable of zooming a camera toward a microphone transmitting an increasing signal level until the change in relative levels transmitted from the microphone stabilizes (col. 4 lines 43-67) in order to continuously track a sound-emitting object. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Hildin in zooming out by the additional amount if the detected period of continued silence exceeds a second amount of time greater than the first amount of time, as per teaching of Chim, in order to continuously track the sound-emitting object.

Regarding claim 22, the limitations of the claim are rejected as the same reasons set forth in claim 11.

***Allowable Subject Matter***

11. Claims 6 and 17 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Alexander et al. (US PAT. 6,380,968) discloses a method for controlling a remote video camera in a video conferencing system (abstract). Kato et al. (US PAT. 6,452,628) disclose a camera control and display device for changing the direction of a camera (col. 2 line 31 through col. 4 line 26). Aoyanagi et al. (JP 09-083856) disclose an intelligent camera equipment to eliminate the need for an exclusive operator by allowing image recognition means to recognize movement of an object and allowing a voice recognition means to recognize a desire direction along which a camera optical axis is desired to be moved (abstract).

13. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks  
Washington D.C. 20231

Or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, V.A., Sixth Floor (Receptionist).

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Eng whose telephone number is 703-308-9555. The examiner can normally be reached on Tuesday to Friday from 7:30 AM to 6:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis A. Kuntz, can be reached on (703) 305-4870. The fax phone number for the organization where this application or proceeding is assigned is 703-308-6306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.



George Eng

Examiner

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